

2003P09732WO

- 1 -

Patent claims

1. An eddy current probe (1) for electrical measurement methods,
which has a substrate (16) with a resting surface (37),
the resting surface (37) comes to lie on a test piece (10),
two electrical components (47) being mounted on the
substrate (16),
the probe (1) with the substrate (16) being so flexible
that the probe (1) with the substrate (16) can adapt itself
to different radii of curvature of the test piece (10),

characterized

in that the probe (1) has a backing (22) with ferritic
and/or magnetic material,
which at least partly covers at least one electrical
component (4, 7), and
which (22) is formed elastically, especially permanently
elastically,
in that the probe (1) comprises an exciter winding (4) as
the first electrical component and a signal coil (7) as the
second electrical component,
in that the exciter winding (4) encloses the coil sections
of the signal coil (7) and
in that the signal coil (7) and the exciter coil (4) lie in
one plane or on one and the same surface of the substrate
(16).

2. The eddy current probe as claimed in claim 1,
characterized in that

the substrate (16) is a flexible film.

3. The eddy current probe as claimed in claim 2, characterized in that

the film (16) is formed from polyimide.

4. The eddy current probe as claimed in claim 1, characterized in that

the backing (22) is formed by an elastic, especially permanently elastic, sheet of a ferritic material.

5. The eddy current probe as claimed in claim 1, characterized in that

the backing (22) is formed by an elastic, especially permanently elastic, casting compound (34), especially filled with ferrite particles.

6. The eddy current probe as claimed in claim 1, characterized in that

the probe (1) has as an electrical component at least one coil (4, 7), which is arranged on the substrate (16) in a planar manner.

7. The eddy current probe as claimed in claim 1, characterized in that

the probe (1) has a ferromagnetic signal amplification (22).

8. The eddy current probe as claimed in claim 1, characterized in that

the probe (1) is adaptable to radii of curvature of up to 50 mm.

9. The eddy current probe as claimed in claim 1, characterized in that

the backing (22) is a gas-filled material.

10. The eddy current probe as claimed in claim 1, characterized in that

the exciter coil (4) and the signal coil (7) are arranged in one plane.

11. The eddy current probe as claimed in claim 1, characterized in that

the entire region to be examined is covered by the probe (12).